

ICS 93.100
CCS P 65



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 50157-2013

Replacing GB 50157-2003

Code for design of metro

地铁设计规范

(English Translation)

Issued on: August 8, 2013

Implemented on: March 1, 2014

**Issued by: Ministry of Housing and Urban-Rural Development of the
People's Republic of China;
General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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3.3 Operation Mode

1.0.21 Barrier-free travel and use facilities should be set up in subway projects

1.0.22 For subway tunnel projects passing through rivers, lakes and other water areas, when the underwater tunnel has damaged water bodies that may endanger the safety of other sections at both ends, anti-flooding doors or other waterproof measures should be installed at both ends of the tunnel passing through the water area. flooding measures.

1.0.23 Metro electromechanical equipment and vehicles should adopt mature products that meet functional requirements and are technically and economically reasonable, and should be standardized, serialized, based on domestic production, and conducive to traffic management, passenger transportation organization, and equipment maintenance.

1.0.24 Under the condition of not affecting the safety, reliability and use function, the subway design should take measures to reduce the project cost and help save the operation cost.

1.0.25 In addition to complying with this specification, the design of the subway should also comply with the current relevant national standards.

2.0.1 Metro (underground railway, subway)

Rapid, large-capacity, electric traction rail transit built in cities. The trains run on fully enclosed lines. The lines located in the central urban area are basically set in underground tunnels, and the lines outside the central urban area are generally set on viaducts or on the ground.

2.0.2 Designed lifetime designed lifetime

Under general maintenance conditions, the minimum time limit for normal use of the project is guaranteed.

2.0.3 Main structure main structure

Stations and intervals are the main force-bearing structures that guarantee the safe operation of trains and the stability of the structural system.

2.0.4 Travel speed operation speed

Under normal operating conditions, the average running speed of the train from the start station to the end station stop.

2.0.5 Maximum running speed

The maximum speed a train can reach under normal operating conditions.

2.0.6 Limit gauge

The contour line that limits vehicle operation and structures around the track area is divided into vehicle limits, equipment limits and building limits.

2.0.7 Vehicle profile

Sets the envelope for all cross-sections of the vehicle.

2.0.8 Vehicle gauge

The maximum dynamic envelope formed by the vehicle in the normal running state on a straight line is used to control vehicle manufacturing and determine the positioning dimensions of the platform and platform doors.

2.0.9 Equipment gauge

The maximum dynamic envelope formed by the vehicle in the faulty running state is used to limit the installation of equipment in the driving area.

2.0.10 Building limit structure gauge

On the basis of the equipment limit, the minimum effective cross-section after meeting the installation dimensions of equipment and pipelines.

2.0.11 Main line

Passenger trains operate throughout the entire route.

2.0.12 Wiring sidings

In addition to the main line, the subway line provides functional services such as sending and receiving, turning back, communication, safety guarantee, and temporary parking for trains during operation, through turnouts and main lines or interconnected track lines. Including reentry lines, crossing lines, contact lines, temporary parking lines, entry and exit lines, safety lines, etc.

2.0.13 Test line testing line

A circuit specially used for vehicle dynamic performance test.

2.0.14 Track structure track structure

The part of the line above the subgrade surface or structural surface is composed of steel rails, fasteners, sleepers, ballast beds, etc.

2.0.15 Seamless track

Rails continuously welded or cemented over the length of two expansion zones.

2.0.16 Expansion joint

A device that adjusts the expansion and contraction of the rail to be greater than the structural rail gap.

2.0.17 Subgrade bed

The upper part of the subgrade bears the power of the track and train, and is affected by hydrology and climate change, so it has a certain thickness of the geotechnical structure, and is divided into the surface layer and the bottom layer.

2.0.18 Public zone of station

The public area of the station is the area in the station for passengers to sell tickets, pass through and board and disembark.

2.0.19 Longitudinal force due to continuous welded rail

Refers to the longitudinal horizontal force generated by the stretching force and bending force of the seamless line.

2.0.20 Breaking force of continuous welded rail

The longitudinal force generated by the relative displacement of the bridge and the long rail due to the breakage of the long rail.

2.0.21 Cut and cover method

A method of building an underground structure in a foundation pit dug from the ground. Including open cut, cover and excavate forward work and cover and excavate upside down work and other construction methods.

2.0.22 Cover and cut-bottom up method

The operation sequence is to build the temporary pavement and its supports for maintaining ground traffic on the ground, excavate the earthwork from top to bottom to the design elevation of the bottom of the pit, and then build the structure from bottom to top.

2.0.23 Cover and cut-top down method

The operation sequence is opposite to the traditional open cut method. After excavating the roof of the ground structure and its vertical support structure, excavate the earth and build the structure in layers from top to bottom under the roof.

2.0.24 Mining method

Underground excavation construction method for constructing tunnels. The traditional mining method refers to the construction method of drilling and blasting, also known as the drilling and blasting method. The modern mining method includes the soft ground shallow buried method and other methods derived from it.

2.0.25 Shield method

The underground excavation construction method of building a tunnel with a shield machine is a method of excavation, advancement, lining and grouting under the protection of the shield steel shell.

2.0.26 Grade of waterproof

The level standard of allowable water leakage of the structure determined according to the waterproof requirements of the project.

2.0.27 Open mode operation

One of the operation modes of subway tunnel ventilation and air conditioning system. During open operation, the air inside the tunnel exchanges air with the outside atmosphere through facilities such as fans, air ducts, and air pavilions.

2.0.28 Close mode operation

One of the operation modes of subway tunnel ventilation and air conditioning system. During closed operation, the interior of the tunnel is basically isolated from the outside atmosphere, and only the amount of fresh air required by passengers is supplied.